

# Managed Curriculum

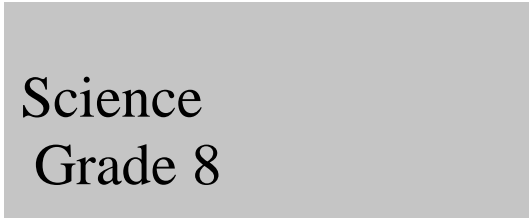


## Eighth Grade Science

2011-2012 School Year



**John White, RSD Superintendent**



# The 2011-2012 Managed Curriculum

## LEAP 8 Test Specifications

Strand	Multiple Choice	Short Answer (2 pts each)
Science as Inquiry	8	0
Physical Science	8	1
Life Science	8	1
Earth and Space	8	1
Science and the Environment	8	1
<i>Comprehensive Science Task</i>		
<i>1 Comprehensive Science Task from 1 of 4 strands for 4 points (Physical Science, Life Science, Earth and Space Science or Science and the Environment)</i>		
Science as Inquiry Dimension 1		1
Science as Inquiry Dimension 2		2

<p><b>Teachers should use this unit to:</b></p> <ul style="list-style-type: none"> <li>develop classroom culture and establish classroom routines</li> <li>administer Pre test to determine students' strengths and weaknesses</li> <li>practice and use test taking strategies</li> <li>discuss , model and reinforce <i>Science Safety</i></li> </ul>	<p style="text-align: center;"><b><u>Suggested Resources</u></b></p> <ul style="list-style-type: none"> <li>CHAMP Module 4</li> <li>Review science safety contract</li> <li>Review Test Taking Strategies</li> <li>Louisiana Guide to Statewide Assessment (La. Web site , RSD "Z" drive or Handbook CD)</li> </ul>
<p><b><u>Test Structure</u></b>                  There are three sessions that are untimed. Students are allowed to take as much time as needed to complete each session, but suggested times are given in the test manual</p> <hr style="border-top: 1px dashed black;"/> <p>Session 1: 40 multiple-choice items                  Session 2: 4 short answer items                  Session 3: 1 constructive science task with 3 short-answer items and 1 extended constructed response item</p>	<p><b><u>Item Types</u></b></p> <ul style="list-style-type: none"> <li>In session 1, the multiple-choice items assess all five strands.</li> <li>In session 2, independent short answer items assess the four content strands.</li> <li>In session 3, the 3 short-answer items are inquiry-based, and the extended constructed response item relates to the science content of the task.</li> </ul>

Teaching Objectives	GLEs	LCC Unit	Recommended Activities	Suggested Resources
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>measure mass, volume, and density.</li> <li>relate density to keeping an object afloat.</li> <li>observe seemingly similar liquids with different densities.</li> <li>measure volume as pressure is increased.</li> <li>graph pressure versus volume of a gas.</li> <li>discuss the concept of inverse relationships.</li> <li>select and use appropriate equipment, technology, tools, and metric systems units of measurement to make observations.</li> </ul>	<p><b>SI:</b> 1, 2, 5, 6, 7, 8, 9, 11, 19, 23</p> <p><b>PS:</b> 1, 2, 3</p>	<p><b>Unit 1: Properties of Matter</b></p>	<p>LCC Activity: Safety in the Science Classroom</p> <p><b>DSM:</b> Matter and Change Activity 1, pg 13-20 (The Density of Liquids) Delta Science Reader pg 13-15</p> <p>Matter and Change Activity 2 ,pg 21-28 (Pressure and Volume of a Gas) Delta Science Reader pg 10, 13-15</p> <p>LCC Unit 1" Activity 2: Atoms to Elements to Ions</p>	<p><i>Student Safety Contract BLM</i></p> <p><i>Vocabulary Self-Awareness BLM</i></p> <p><i>Vocabulary Cards BLM</i></p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>differentiate between solutions and suspensions.</li> <li>separate a suspended material from a solution.</li> <li>explore the properties of protons, neutrons, and electrons.</li> <li>calculate protons, neutrons, and electrons from the atomic #.</li> <li>determine the composition of elements using the periodic table.</li> <li>describe the properties of selected elements.</li> <li>predict how elements will form ions and react with other elements.</li> <li>construct model atoms and define isotope.</li> </ul>	<p><b>SI:</b> 3, 6, 7, 14, 15, 23, 25, 33, 34</p> <p><b>PS:</b> 2, 3</p>		<p><b>DSM:</b> Matter and Change Activity 3 <b>pg 29-36</b> (Solutions and Suspensions) Delta Science Reader pg 14-15</p> <p>Matter and Change Activity 4 <b>pg 37-44</b> (Atomic Structure) Delta Science Reader pg 2-5, p. 22</p> <p>LCC Activity 3</p>	<p><i>Word Grid Answers BLM</i></p> <p><i>Word Grid BLM</i></p> <p><i>Observation Table BLM</i></p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>discuss how molecules form through the covalent bonding of atoms.</li> <li>build models to demonstrate a three-dimensional structure.</li> <li>discuss general characteristics of ionic and covalent compounds.</li> <li>test substances for their ability to melt, dissolve in water, and conduct electricity.</li> <li>list conclusions about chemical properties of ionic and covalent compounds.</li> </ul>	<p><b>SI:</b> 1, 2, 4, 5, 6, 7, 8, 12, 21, 22, 23, 26, 31, 36, 37</p> <p><b>PS:</b> 2, 3, 4, 5</p>		<p><b>DSM:</b> Matter and Change Activity 5 <b>pg 45-52</b> (Making Molecules) Delta Science Reader pg 2-8, 22</p> <p>LCC Unit 1: Activity 4</p>	

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Note: Differentiated instruction activities for students who are advanced, Tier II, Tier III, or English Language Learners can be found in the wrap-around text of the Teacher’s Edition on the text pages indicated

Teaching Objectives	GLEs	LCC Unit	Recommended Activities	Suggested Resources
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>analyze the consequences of human activities on global earth systems.</li> <li>determine the results of constructive and destructive forces on landform development.</li> <li>describe how humans' actions and natural processes have modified regions.</li> <li>apply geological principles to determine the relative ages of rock layers.</li> <li>describe how processes seen today are similar to those in the past.</li> </ul>	<p><b>SI:</b> 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 19, 21, 22, 23, 26, 31, 34, 36, 37, 40</p> <p><b>ESS:</b>8, 16, 17, 34, 35 19, 20, 28, 51</p>	<p>LCC Unit 2: Earth's Crust LCC Unit 3: Geologic History of Earth LCC Unit 4: Landforms and Topography FOSS Kit : Earth History</p>	<p><b>FOSS:</b> Earth History Investigation 1 ,pg 34 – 50 <i>Pushing the Envelope</i> Earth History Investigation 2, pg. 51-75 Into the Grand Canyon – Parts 1, 2, 3, 4 Earth History Resources, pg.64-67, 73 -75</p> <p><b>FOSS:</b> Earth History Investigation 3, pg. 80 -103 LCC Unit 2 - Activity 1 LCC Unit 4 Activity 1</p> <p><b>FOSS:</b> <i>Earth History CD-ROM – Auditorium, Colorado River and Colorado Plateau, Geology Lab</i></p> <p><b>FOSS Science Stories :</b> <i>From the Little Colorado to the Foot of the Grand Canyon</i></p>	<p><i>Vocabulary</i> <i>Self-Awareness Chart</i> <i>BLM</i></p> <p>Prentice Hall Earth Science pgs. 317-322</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>identify and describe the four density layers of Earth.</li> <li>illustrate the movement of convection currents.</li> <li>identify and name three sedimentary rocks.</li> <li>investigate differential erosion.</li> <li>classify a given rock or mineral by its appearance and other physical characteristics.</li> <li>explain what changes the identity of one rock formation to another.</li> <li>compare causes and locations of earthquakes and volcanoes.</li> <li>discuss convection currents as an explanation of plate tectonics.</li> </ul>	<p><b>SI:</b> 1, 2, 3, 4, 7, 8, 10, 11, 12, 13, 14, 15, 22, 23</p> <p><b>ESS:</b> 8, 10, 11, 12, 13, 16, 17, 18, 35</p>		<p><b>FOSS:</b> Earth History Investigation 4, pg. 114 -150 <i>My Sediments Exactly – Parts 1, 2, 3 &amp; 4)</i></p> <p><b>FOSS Science Stories :</b> <i>Grand Canyon Flood</i> <b>FOSS :</b> <i>Earth History CD-ROM –Geology Lab, Sand Types</i> <i>Video: Weathering and Erosion</i></p> <p>LCC Unit 2 – Activity 2. 4, 5</p>	<p><i>Rock Cycle Concept</i> <i>BLM</i></p> <p><i>Scientific Process BLM</i></p> <p><i>Getting to the Core of It</i></p> <p>Prentice Hall Earth Science – pgs. 102-106, pgs. 134-135</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>distinguish between chemical and mechanical weathering and identify the role of weathering agents.</li> <li>describe how processes seen today are similar to those in the past.</li> </ul>	<p><b>SI:</b> 1, 7, 8, 10, 15, 17, 18, 22, 26, 28, 31</p> <p><b>ESS:</b> 9, 14, 35</p>		<p><b>FOSS:</b> Earth History Investigation , 4 pg. 151 -163 <i>My Sediments Exactly – Parts 5 &amp; 6</i></p> <p><b>FOSS:</b> Earth History Investigation 5, pg. 165 -182</p> <p><b>FOSS:</b> <i>Earth History CD-ROM – Geology Lab, Sedimentary Rocks, Sandstone, Shale, Limestone</i></p> <p><b>FOSS Science Stories :</b> <i>Water on Mars</i> Limestone – Parts 1 &amp; 2 Where in the World is Calcium Carbonate?</p> <p>LCC Unit 4 – Activity 2, 3</p>	<p>Wind Erosion Table <i>BLM</i></p> <p>Prentice Hall Earth Science – pgs. 236-248</p>

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Teaching Objectives	GLEs	LCC Unit	Recommended Activities	Suggested Resources
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>distinguish between chemical and mechanical weathering and identify the role of weathering agents.</li> <li>describe how processes seen today are similar to those in the past.</li> <li>distinguish among several examples of erosion.</li> </ul>	<p><b>SI:</b> 1,7, 8, 10, 15, 17, 18, 22, 26, 28, 31</p> <p><b>ESS:</b> 14, 35, 53</p>	<p>Unit 2: Earth's Crust Unit 3: Geologic History of Earth; Unit 4: Landforms and Topography FOSS Kit : Earth History</p>	<p><b>FOSS:</b> Earth History Investigation 5 <b>pg. 183 -194</b> <b>FOSS:</b> <i>Earth History CD-ROM – Geology Lab, Sedimentary Rocks, Limestone Limestone – Parts 3 &amp; 4</i></p> <p><b>FOSS Science Stories :</b> <i>Coconino Stories</i> LCC Unit 4 – Activity 4</p>	<p>Auditorium, <i>Modern Environments</i></p> <p><i>Chemical Weathering BLM</i> Prentice Hall Earth Science –pgs. 264-301</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>explain how scientists know what conditions existed on Earth long ago.</li> <li>describe how certain fossils are indicators of ancient environments and how the evolutionary developments of life forms are inferred from the fossil record.</li> <li>compare fossils from different geologic eras and areas of Earth.</li> <li>interpret a timeline starting with the birth of the solar system to the present.</li> <li>determine the types of evidence that are available to scientist to interpret the history of the Earth.</li> <li>describe how certain fossils are indicators of ancient environments and describe how geologists are able to discern the geologic history of a region using the rock layers.</li> <li>correlate discontinuous rock columns from around the world.</li> <li>distinguish between relative and absolute dating and describe how actual geologic ages can be measured using known rates of radioactive decay.</li> </ul>	<p><b>SI:</b> 1, 3, 6,, 7, 8, 10, 13, 14, 15, 16, 17, 18, 22, 26, 28, 31,39, 40</p> <p><b>ESS:</b>14 30, 31, 32, 33, 34, 35</p>		<p><b>FOSS:</b> Earth History Investigation 6 pg. 195-214 It's About Time – Parts 1 &amp; 2</p> <p><b>FOSS:</b> Earth History Investigation 6 pg. 215-226 It's About Time – Parts 3 &amp; 4</p> <p><b>FOSS:</b> Earth History Investigation 7, pg. 227-244 Fossils and Time – Parts 1 &amp; 2</p> <p><b>FOSS Science Stories:</b> <i>Fossils, Rocks and Time , Floating on a Prehistoric Sea</i> A Fossil Primer</p> <p><b>FOSS:</b> <i>Earth History CD-ROM USA MAP, Time Room, Colorado Plateau over Time, Time Machine</i></p> <p>LCC Unit 3 – Activity 1, 4, 5, 6</p>	<p><i>Who's on First Fossils BLM</i></p> <p>Prentice Hall Earth Science –pgs. 308-316</p> <p>Prentice Hall Earth Science – pgs. 327-347</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>describe how igneous rocks are formed.</li> <li>describe igneous rocks as extrusive or intrusive.</li> <li>discover how metamorphic rocks are formed.</li> <li>describe the rock cycle.</li> <li>simulate the formation of crystals in igneous rocks.</li> <li>relate the size of crystals in igneous rocks to environmental variables.</li> <li>compare the physical characteristics of rock and mineral specimens to observe that a rock is a mixture of minerals.</li> </ul>	<p><b>SI:</b> 1, 3, 4, 8, 10, 15, 28,</p> <p><b>ESS:</b> 16, 18, 35</p>		<p><b>FOSS:</b> Earth History Investigation 8, pg. 245 – 265 One Rock to Another – Parts 1 and 2</p> <p><b>FOSS Science Stories:</b> <i>The Story of the Wrightwood Marble and Crystals, Minerals, and Rocks</i></p> <p><b>FOSS</b> Earth History CD ROM : Geology Lab, Rock Database</p> <p>Expeditions Desk – Yosemite National Park and Hawaii Volcanoes National Park</p> <p>LCC Unit 2: Activity 2</p>	<p>Prentice Hall Earth Science pgs 94 -97 pgs 66 - 85</p>

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Teaching Objectives	GLEs	LCC Unit	Recommended Activities	Suggested Resources
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>observe the locations and shapes of the continents on a globe.</li> <li>use paper cutouts of the continents to demonstrate how they fit together like pieces of a jigsaw puzzle.</li> <li>explore a variety of rocks and see how their distribution around Earth supports the theory of Continental Drift.</li> <li>discover that the Earth is made of layers and learn the characteristics of each layer.</li> <li>create a model of the Earth's layers.</li> <li>examine the composition of Earth's crust.</li> <li>simulate the chemical and mechanical weathering of rocks.</li> <li>examine the composition of different types of soil.</li> </ul>	<p><b>SI:</b> 1, 2, 3, 4, 6, 7, 11, 12, 13, 14, 15, 33</p> <p><b>ESS:</b> 8, 9, 14, 15, 16, 35</p>	<p>Unit 2: Earth's Crust Unit 3: Geologic History of Earth Unit 4: Landforms and Topography DSM: Earth Processes</p>	<p><b>DSM:</b> Earth Processes – Activity 1 – Pieces of a Puzzle p. 1 – 21 Activity 2 – The Structure of Earth – p.gs.23- 28 Activity 3 – Earth's Weathered Crust –pgs.. 29 – 37</p> <p><b>Delta Science Readers:</b> pgs. 4, 6 pgs. 2-3 pgs. 19-20</p>	<p>Prentice Hall Earth Science pg. 136 – 140 pg. 238 – 255 pg. 124 - 131</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>discuss the roles of weathering, erosion, and deposition in the formation of sedimentary rocks.</li> <li>examine fossils and note their presence in sedimentary rocks.</li> <li>observe the deposition rates of different sized sediments in water.</li> <li>make model sedimentary rocks and compare to other rocks.</li> <li>discover how igneous rocks are formed.</li> <li>model a volcanic eruption.</li> <li>compare formation of igneous and sedimentary rocks.</li> </ul>	<p><b>SI:</b> 1, 2, 3, 4, 6, 7, 11, 12, 13, 14, 15, 33</p> <p><b>ESS:</b> 13, 15, 18, 31, 33, 35</p>	<p>Unit 2: Earth's Crust Unit 3: Geologic History of Earth Unit 4: Landforms and Topography DSM: Earth Processes</p>	<p><b>DSM:</b> Earth Processes – Activity 4 – Sediments Become Rocks – p. 39 – 43 (part 1) Activity 5 – Volcanoes Make Rocks – pgs. 47 – 52</p> <p>Activity 5 – Volcanoes Make Rocks –part 2 Activity 4 – part 2</p>	<p>Prentice Hall Earth Science pgs. 272 – 290 pgs 200 - 223</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>model the formation of a metamorphic rock.</li> <li>compare the formation of igneous, sedimentary, and metamorphic rocks.</li> <li>use clay to model layers of the Earth's crust.</li> <li>investigate the effects of compression on layers of rock.</li> <li>manipulate the clay to model various types of faults.</li> <li>demonstrate the formations of folded, dome, and fault-block mountains.</li> <li>model the energy waves produced by an earthquake.</li> <li>identify the focus and epicenter in their earthquake models.</li> <li>distinguish between compression and shear waves.</li> </ul>	<p><b>SI:</b> 1, 2, 3, 4, 6, 7, 11, 12, 13, 14, 15, 33</p> <p><b>ESS:</b> 8, 12, 13, 15, 17, 18, 19</p>	<p>Unit 2: Earth's Crust Unit 4: Landforms and Topography DSM Kit: Earth Processes</p>	<p><b>DSM:</b> Earth Processes – Activity 6 – The Rock Cycle pgs. 55 – 62</p> <p>Activity 7 – Mountain Building – pgs. 63 - 69</p> <p>Activity 8 – Earthquake – pgs. 71 - 79</p>	<p>Prentice Hall Earth Science pgs. 160 - 177</p>

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<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>explore how a seismograph detects and records the movement of the Earth during an earthquake.</li> <li>discuss the Richter scale.</li> <li>build a model seismograph and use it to measure the strength of a simulated earthquake.</li> <li>understand latitude and longitude.</li> <li>plot locations of earthquakes and volcanoes on a map and Earth models.</li> <li>identify the Ring of Fire.</li> <li>discuss the Earth processes that effect isotasy.</li> </ul>	<p>SI: 1, 2, 3, 4, 6, 7, 11, 12, 13, 14, 15, 33</p> <p>ESS: 9, 13, 21</p>	<p>Unit 2: Earth's Crust Unit 4: Landforms and Topography DSM Kit: Earth Processes</p>	<p>DSM: Earth Processes – Activity 9 Building a Seismograph – pgs. 81 – 87</p> <p>Activity 10 – Ring of Fire – pgs. 89 – 95</p> <p>Activity 11 – A Balancing Act – pgs 97 -103</p> <p>LCC Units:</p>	<p>Prentice Hall Earth Science pgs. 178 – 183 pgs. 186 – 191 pg. 201</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>create and observe convection currents in water.</li> <li>compare convection currents in water to those in the mantle.</li> <li>explore the effects of convection currents on Earth's crust.</li> <li>demonstrate what happens when continental and oceanic crusts collide.</li> <li>discuss the different types of boundaries between plates.</li> <li>describe how water flows through the ground and its effect on stream levels.</li> <li>explain the interactions of the processes in the water cycle.</li> <li>identify the Sun as a primary source of energy for the water cycle.</li> <li>illustrate the water cycle and describe the processes that occur.</li> <li>accurately describe the movement of groundwater through rock.</li> <li>describe the general climate conditions of Louisiana and what affects those conditions.</li> </ul>	<p>SI: 1, 2, 3, 4, 6, 7, 11, 12, 13, 14, 15, 33</p> <p>ESS: 9, 11, 12, 22</p>	<p>Unit 5: Factors That Affect Earth FOSS Kit: Air and Weather</p>	<p>DSM: Earth Processes – Activity 12 – Convection Currents – pgs. 105 – 110 Activity 13 – The Ocean Floor pgs. 111 -120 Activity 14 – Plate Tectonics pgs. 121 -129</p> <p>LCC Unit 5: Activity 1 Activity 2</p>	<p>Prentice Hall Earth Science pgs. 135, 151 pgs. 141 – 147 pgs. 150 – 154</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>discuss weather.</li> <li>use weather maps to observe patterns and trends and be able to make weather predictions based on that knowledge.</li> <li>discuss what a meteorologist does.</li> <li>use weather instruments to measure temperature, atmospheric pressure,</li> <li>humidity, wind direction, and wind speed.</li> <li>discuss air.</li> <li>describe the atmosphere as layers of gas.</li> </ul>	<p>SI: 1, 2, 3, 4, 6, 7, 11, 12, 14, 15, 16, 19, 30,</p> <p>ESS: 26, 27, 28, 29, 44</p>	<p>Unit 5: Factors That Affect Earth FOSS Kit: Air and Weather</p>	<p>FOSS Kit: Air and Weather Investigation 1 – What is Weather? P. 33 – 56 Video: <i>Wonders of Weather – Part 4 "Things that Fall from the Sky" and Part 2 "Hurricane"</i></p> <p>FOSS Kit: Air and Weather Investigation 2 – Air? pgs. 58 - 82</p> <p>FOSS Weather and Water CD-ROM Matter and Energy, Gas in a Syringe, Atmospheric Data, Elevator to Space</p> <p>FOSS Science Stories: <i>What's in the Air? And A Thin Blue Veil Naming Hurricanes</i></p> <p>LCC Unit 5: Activity 3, Activity 4, Activity 5 , Activity 6</p>	<p>Prentice Hall Earth Science p. 592 – 593 p. 512 – 527</p>

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<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>use models to demonstrate how the tilt of the earth is a major cause of the seasons.</li> <li>discuss seasonal variation in day length as a consequence of axis tilt, rotation, and revolution.</li> <li>describe the solar angle.</li> <li>-identify the alignments of Earth, the Sun, and Moon that result in the various phases of the moon.</li> <li>explain how beam spreading reduces the intensity of solar radiation.</li> <li>-use data to verify the dates of Earth's perihelion and aphelion.</li> </ul>	<p><b>SI:</b> 1, 2, 3, 4, 6, 7, 11, 12, 14, 15, 16, 19, 30, 31, 32, 33</p> <p><b>ESS:</b> 45, 46, 47</p>	<p><b>Unit 5: Factors That Affect Earth FOSS Kit: Air and Weather</b></p>	<p><b>FOSS Kit:</b> Air and Weather Investigation 3 – Seasons and Sun, pgs. 84 - 112</p> <p><b>FOSS Weather and Water CD-ROM</b> Cycles – Seasons</p> <p><b>FOSS Science Stories:</b> <i>Wendy and Her Worldwide Weather Watchers, Seasons</i></p> <p>LCC Unit 5: A ctivity 7</p>	<p>Prentice Hall Earth Science pgs. 620 – 621 pgs. 660 – 665</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>explore energy transfer through radiation and conduction.</li> <li>measure the heating and cooling of earth materials when moved into and out of the shade.</li> <li>explain radiant energy.</li> <li>use thermometers.</li> <li>explore kinetic energy.</li> <li>design and conduct experiments to observe heat transfer by conduction in solids and liquids.</li> <li>describe how the atmosphere is heated.</li> </ul>	<p><b>SI:</b> 1, 2, 3, 4, 6, 7, 11, 12, 14, 15, 16, 19, 30, 31, 32, 33</p> <p><b>ESS:</b> 27, 43, 44</p>		<p><b>FOSS Kit:</b> Air and Weather Investigation 4: Heat Transfer – pgs. 114 -140</p> <p><b>FOSS Weather and Water CD-ROM</b> Matter and Energy – Heat and Energy Matter and Energy – Molecules in Solids,Liquids, and Gases</p> <p><b>FOSS Science Stories:</b> <i>Thermometer: A Device to Measure Temperature</i></p>	<p>Prentice Hall Earth Science p. 550</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>investigate density.</li> <li>determine relative density of substances.</li> <li>use mass and volume data to calculate densities.</li> <li>discover as matter heats up it expands.</li> <li>observe convection in a liquid environment.</li> <li>describe how materials of different densities interact.</li> <li>explain how energy transfer drives the process of convection.</li> <li>observe convection in a gas environment.</li> </ul>	<p><b>SI:</b> 1, 2, 3, 4, 6, 7, 11, 12, 14, 15, 16, 19, 30, 31, 32, 33</p> <p><b>ESS:</b> 10, 27, 43, 44,</p>		<p><b>FOSS Kit:</b> Air and Weather Investigation 5: Convection – pgs. 141- 175</p> <p><b>FOSS Weather and Water CD-ROM</b> Matter and Energy – Heat Energy</p> <p><b>FOSS Science Stories:</b> <i>Density</i> <b>FOSS Science Stories :</b> <i>Convection</i></p>	<p>Prentice Hall Earth Science p. 134</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>design an investigation to show that water vapor is in the air.</li> <li>produce and explain condensation.</li> <li>explain evaporation.</li> <li>measure changes in temperature due to evaporation.</li> <li>describe relative humidity and dew point.</li> <li>determine dew point.</li> </ul>	<p><b>SI:</b> 1, 2, 3, 4, 6, 7, 11, 12, 14, 15, 16, 19, 30, 31, 32, 33</p> <p><b>ESS:</b> 23, 44</p>		<p><b>FOSS Kit:</b> Air and Weather Investigation 6: Water in the Air– pgs. 178 – 205</p> <p><b>FOSS Science Stories:</b> <i>Dragon’s Breath</i></p>	<p>Prentice Hall Earth Science pgs. 560 – 564</p>

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<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>observe changes in temperature due to pressure change.</li> <li>explain how dew and clouds form when humid air cools.</li> <li>predict cloud formation.</li> <li>follow the path of a water molecule in the water cycle.</li> <li>explain how evaporation, condensation, precipitation, and other processes produce many variations in the water cycle.</li> </ul>	<p><b>SI:</b> 1, 2, 3, 4, 12, 13, 14, 16, 17, 19, 22, 26, 33</p> <p><b>ESS:</b> 23, 24, 25</p>	<p><b>Unit 5: Factors That Affect Earth FOSS Kit: Air and Weather</b></p>	<p><b>FOSS Kit: Air and Weather</b> Investigation 6: Water in the Air – p. 206 – 222</p> <p><b>FOSS Kit: Air and Weather</b> Investigation 7: The Water Planet – p. 224 – 244</p> <p><b>FOSS Science Stories:</b> <i>Observing Clouds</i> <i>Weather Balloons</i> <i>Upper-Air Surroundings</i> <i>Earth: The Water Planet</i></p> <p><b>FOSS : Weather and Water CD-ROM</b> Atmospheric Data – Weather-Balloon Launch</p> <p><b>FOSS Weather and Water CD-ROM</b> Cycles – Water Cycle</p> <p>LCC Unit 5 : Activity 3</p>	<p>Prentice Hall Earth Science pgs. 392 – 393 p. 563</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>investigate the effect of air pressure on a system.</li> <li>investigate how density is affected by air pressure.</li> <li>apply pressure to a system and observe the compression of the gas.</li> <li>design a model to show how wind is created</li> <li>explain differential heating, energy transfer, convection , change of atmospheric pressure and wind.</li> <li>describe the relationship between changing air pressure and wind.</li> <li>build an anemometer to measure wind speed.</li> <li>interpret a pressure map.</li> <li>locate high and low pressure areas on maps.</li> </ul>	<p><b>SI:</b> 1, 2, 3, 4, 12, 13, 14, 16, 17, 19, 22, 26, 33</p> <p><b>ESS:</b> 27, 29, 43, 44</p>		<p><b>FOSS Kit: Air and Weather</b> Investigation 8: Air Pressure and Wind pgs. 246 – 280</p> <p><b>FOSS Science Stories:</b> What is Air Pressure? Where the Wild Wind Blows Laura’s Big Day</p>	<p>Prentice Hall Earth Science pgs. 516 – 522 pgs. 552-558 pgs. 132 - 135</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>discover what air masses are and how they are formed.</li> <li>set-up a solar-heated bag to model the formation of an air mass.</li> <li>describe what happens when different fronts meet.</li> <li>observe the interaction of two liquids of different densities as a model for frontal boundaries.</li> <li>study types of severe weather found in the U.S.</li> <li>relate the water cycle to weather.</li> <li>differentiate between weather and climate.</li> <li>discuss global warming.</li> <li>explain how global warming could affect the water cycle and Earth’s climate.</li> </ul>	<p><b>SI:</b> 1, 2, 3, 4, 12, 13, 14, 16, 17, 19, 22, 26, 33</p> <p><b>ESS:</b> 24, 25, 27, 29, 43, 44</p>		<p><b>FOSS Kit: Air and Weather</b> Investigation 9 : Weather and Climate – p. 281 – 320</p> <p><b>FOSS Science Stories:</b> Severe Weather Is Earth Getting Warmer?</p>	<p>Prentice Hall Earth Science pgs. 578 – 609 pgs. 614 – 633</p>

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Teaching Objectives	GLEs	LCC Unit	Recommended Activities	Suggested Resources
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>demonstrate the Earth has a magnetic field.</li> <li>explain how two magnetic fields combine.</li> <li>define gravity and describe the relationship among the force of gravity, the mass of objects, and the distance between objects.</li> <li>explain the relationships among force, mass, and acceleration.</li> </ul>	<p><b>SI:</b> 1, 2, 4, 7, 11, 12, 13, 19, 21,22, 23,</p> <p><b>PS:</b> 4, 5, 7</p>	<p style="text-align: center;"><b>Unit 6: Earth's Forces</b></p>	<p>LCC Unit 6</p> <p style="padding-left: 40px;">Activity 1</p> <p style="padding-left: 40px;">Activity 2</p>	<p>Prentice Hall Earth Science p. 131 pgs. 144 – 145</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>predict how the gravitational attraction between two masses will increase or decrease when changes are made in the distance between the objects.</li> <li>explain the relationships among force, mass, and acceleration.</li> <li>relate Newton's laws of gravity to the motions of celestial bodies and objects on Earth.</li> <li>describe Newton's second law of motion and explain how it relates to gravity.</li> </ul>	<p><b>SI:</b> 2,4, 6, 12, 13, 14, 19, 20, 22, 25, 27, 28, 34</p> <p><b>PS:</b> 5, 6, 7</p> <p><b>ESS:</b> 39</p>		<p>LCC Unit 6</p> <p style="padding-left: 40px;">Activity 3</p> <p style="padding-left: 40px;">Activity 4</p>	<p>Prentice Hall Earth Science pgs. 666 - 669</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>assemble SkyCaps and use them to see how the skies change over the course of a day.</li> <li>observe and describe how the stars move across the sky at night.</li> <li>observe and describe how the Sun moves across the sky during the day.</li> <li>explain how the rotation of Earth causes the sky motions they have described.</li> <li>explain how the rotation of the earth causes sunrise and sunset each day.</li> </ul>	<p><b>SI:</b> 3, 6, 7, 12, 13, 14, 15,</p> <p><b>ESS:</b> 45, 46</p>	<p style="text-align: center;"><b>UNIT 7: Astronomy and Space Exploration</b> DSM Kit: Astronomy</p>	<p><b>DSM Kit : Astronomy</b></p> <p style="padding-left: 40px;">Activity 1 : The Sky in Motion - p. 13 - 22</p> <p style="padding-left: 40px;">Activity 2: As the Earth Turns – p. 23 - 30</p> <p><b>Delta Science Readers</b> – pgs. 2 – 7</p>	<p>Prentice Hall Earth Science pgs. 752 - 759</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>discover how and why the sky changes as an observer moves from the equator toward the poles.</li> <li>construct an astrolabe and use it to determine the elevation of objects.</li> <li>construct a solar quadrant and use it to determine their latitude.</li> <li>learn that differences in the night sky around the world are the basis for celestial navigation.</li> <li>observe and describe how the stars change during the year.</li> <li>build a model showing how Earth revolves around the Sun</li> <li>relate Earth's orbital motion to the changing sky.</li> </ul>	<p><b>SI:</b> 3, 6, 7, 12, 13, 14, 15,</p> <p><b>ESS:</b> 37, 38, 39, 45, 46, 47, 48</p>		<p><b>DSM Kit : Astronomy</b></p> <p style="padding-left: 40px;">Activity 3: Skies Around the World – p. 31 – 40</p> <p style="padding-left: 40px;">Activity 4: Stars Throughout the Year, p. 41 – 50</p> <p><b>Delta Science Readers</b>, pgs. 8 – 10</p> <p>LCC Unit 7: Activity 4</p>	<p>Prentice Hall Earth Science -</p>

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Teaching Objectives	GLEs	LCC Unit	Recommended Activities	Suggested Resources
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>observe that the sun is higher in summer and lower in winter.</li> <li>discover that Earth's motion around the sun causes the seasons.</li> <li>construct a model of an ancient ruin to see how astronomers centuries ago observed the Sun to predict the changing seasons.</li> <li>construct a solar system scale model.</li> <li>use planet orbital positions to determine where the planets are in the Earth's sky at specific times.</li> <li>learn more about individual planet characteristics.</li> </ul>	<p><b>SI:</b> 3, 6, 7, 12, 13, 14, 15, 19</p> <p><b>ESS:</b> 40, 41, 42</p>	<p><b>UNIT 7: Astronomy and Space Exploration</b> DSM Kit: Astronomy</p>	<p>DSM Kit : Astronomy Activity 5: The Sun and Seasons – p. 51- 60 Activity 6: Planet Watch – p. 61-68</p> <p>Delta Science Readers - p. 2 – 7 Delta Science Readers – p. 2, 5, 8</p> <p>LCC Unit 7: Activity 5, 6</p>	<p>Prentice Hall Earth Science pgs. 706 – 710 pgs. 712 – 727</p>
<p><b>Review for State Testing and LEAP and iLeap Testing</b></p> <p><b>Teaching Note:</b></p> <ul style="list-style-type: none"> <li>Use benchmark test data to determine which skills and concepts students should review.</li> <li>Practice test taking skills.</li> <li>Review Louisiana Assessment Guide for additional details about test and test items.</li> </ul>				
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>match shuttle starfield patterns with sky maps.</li> <li>discover some of the myths behind constellation names.</li> <li>construct card models showing their favorite constellation pattern.</li> <li>use star distance data to make a three-dimensional model of part of a starfield.</li> <li>discover that a constellation has a different two-dimensional appearance when observed from a new direction.</li> <li>learn that starlight intensity varies according to the star's intrinsic brightness and the star's distance from the observer.</li> </ul>	<p><b>SI:</b> 3, 6, 7, 8, 12, 13, 14, 15, 19, 38</p> <p><b>ESS:</b> 37, 38</p>		<p>DSM Kit : Astronomy Activity 7: Constellations and Myths, pgs. 69 – 76</p> <p>Activity 8: Three-Dimensional Starfield, pgs. 77– 84</p> <p>Delta Science Readers – p. 13</p> <p>LCC Unit 7 : Activity 3</p>	<p>Prentice Hall Earth Science pgs. 808 – 809</p>

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Teaching Objectives	GLEs	LCC Unit	Recommended Activities	Suggested Resources
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>experiment with lenses and the images they produce.</li> <li>assemble a telescope and calculate its magnification.</li> <li>use the telescope to observe distant objects.</li> <li>discover that stars have a life cycle just as living things do.</li> <li>discover that Earth is in the Milky Way galaxy.</li> <li>arrange star cloud images in sequence from youngest to oldest.</li> <li>create flipbooks showing the life cycle of a star.</li> </ul>	<p>SI: 3, 6, 7, 12, 13, 14, 15</p> <p>ESS: 36, 37, 38</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Unit 7: Astronomy and Space Exploration DSM Kit: Astronomy</p>	<p>DSM Kit : Astronomy Activity 9: Seeing More –pgs. 85 – 92 Activity 10: Life Cycle of a Star – pgs. 93 - 100</p> <p>Delta Science Readers – p. 16 Delta Science Readers – pgs. 11 – 12</p>	<p>Prentice Hall Earth Science pgs. 744 – 751 pgs.762 – 766</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>classify different galaxies by shape.</li> <li>discover that Earth is in the Milky Way.</li> <li>estimate the number of galaxies in the universe based on images of deep space taken by the Hubble telescope.</li> <li>calculate the probability of other intelligent life forms existing in the Milky Way galaxy.</li> <li>interpret humanity's first messages to the stars.</li> <li>create authentic messages to aliens.</li> </ul>	<p>SI: 3, 4, 6, 7, 12, 13, 14, 15, 16</p> <p>ESS: 48, 49</p>		<p>DSM Kit : Astronomy Activity 11: Galaxies – p. 101-108 Delta Science Readers – p. 14 – 15; 18, 21</p> <p>Activity 12: Are We Alone? - p. 109 - 118</p>	<p>Prentice Hall Earth Science pgs.767 – 773 pgs. 734 – 737</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>illustrate possible point and non-point source to pollution.</li> <li>analyze the consequences of human activity on global Earth systems.</li> <li>describe the relationship between plant type and soil compatibility.</li> </ul>	<p>SI: 1, 2, 3, 4, 5, 6, 7, 8, 11, 13, 19, 27, 37, 38, 39, 40,</p> <p>SE: 50, 51, 52</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Unit 8: Pollution and Its Effects</p>	<p>LCC Unit 8: Activity 1</p> <p>Activity 2</p> <p>Activity 3</p>	<p>Prentice Hall Earth Science pgs. 494 – 495</p>
<p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>analyze the consequences of human activity on global Earth systems.</li> <li>distinguish among several examples of erosion.</li> </ul> <p style="text-align: center;"><b>Final Examination</b></p>	<p>SI: 1, 2, 3, 4, 5, 6, 7, 8, 11, 13, 19, 27, 37, 38, 39, 40,</p> <p>SE: 51, 53</p>		<p>LCC Unit 8:</p> <p>Activity 4</p> <p>Activity 5</p> <p>Activity 6</p>	<p>Prentice Hall Earth Science pgs. 528 – 535</p>

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